What is claimed is:

1. A seat belt tension sensor comprising:

a cross member,

a force sensing means, and

a tension receiver, and wherein:

said tension receiver is adapted for receiving force from a seat belt,

said tension receiver is connected with said force sensing means for applying force thereto,

said force sensing means is connected with said cross member for applying force thereto, and

said force sensing means is adapted to generate an electric signal responsive to said force received from said tension receiver when said force received from said tension receiver is in the range of zero to a predetermined force, and including

means for protecting said force sensing means from damage by said force when said force received from said seat belt is greater than said predetermined force.

2. The invention as defined by Claim 1 and wherein

said tension receiver is movable in the direction of an axis, and including:

means for selecting from said force received from a seat belt the component of said force received from a seat belt having the direction of said axis, and wherein:

said tension receiver is adapted to apply said selected component of said force through said connection to said force sensing means.

3. The invention as defined by Claim 2 wherein:

said means for selecting said axial component comprises bearing means providing low friction movement of said tension receiver in the direction of said axis.

4. The invention as defined by Claim 3 and wherein:

said bearing means comprises flexible suspension means engaging said anchor and said tension receiver.

5. The invention as defined by Claim 4 wherein:

said flexible suspension means provides a preload force urging said tension receiver in the direction of said axis.

6. The invention as defined by Claim 1 wherein:

said force sensing means comprises a flexible member,

said flexible member is connected with said tension receiver for receiving force therefrom, and

said flexible member is adapted to flex in response to said force received from said tension receiver.

7. The invention as defined by Claim 6 wherein:

said electric signal is a measure of said flexing of said flexible member.

8. the invention as defined by Claim 6, and wherein:

said cross member comprises a grooved edge,

said grooved edge comprises salient edges,

said flexible member engages said salient edges,

at times when said force received by said flexible member from said tension receiver is less than said predetermined force there is a gap delimited by said salient edges between said flexible member and said groove, and

said flexible member and said groove are such that: when said force received by said flexible member from said tension receiver is greater than said predetermined level, said flexible member and said groove abut at points between said salient edges.

9. The invention as defined by Claim 6 wherein:

said flexible member comprises a base adapted to flex in response to said force received from said tension receiver, and including:

two arms linked with said base for movement consequent to said flexing, and wherein:

said two arms have a distance therebetween,

said distance between said arms is responsive to said force received by said flexible member from said tension receiver, and

said force sensing means comprises means responsive to said distance between said arms by generating said electric signal.

10. The invention as defined by Claim 9 and including:

a capacitance sensor and two capacitor elements, and wherein:

there is a first capacitance between one of said two capacitor elements and one of said two arms, said arms being electrically connected,

there is a second capacitance between the other of said two capacitor elements and the other of said two arms,

said capacitance sensor is connected to said capacitor elements for sensing the capacitance therebetween, and

said capacitance sensor is adapted for generating a signal responsive to said capacitance between said capacitor elements, whereby

said signal is said electric signal.

11. The invention as defined by Claim 9 and including:

a permanent magnet for providing a magnetic field between said arms, and

a magnetic field sensor responsive to said magnetic field, and wherein:

said arms comprise ferromagnetic material, and

said magnetic field sensor is adapted for generating a signal responsive to said magnetic field between said arms, whereby

said signal is said electric signal.

12. A belt tension sensor comprising:

an anchor, said anchor comprising a cross member,

a flexible member,

a tension receiver, and

sensing means for generating an electric signal, and wherein:

said flexible member is connected with said cross member for applying force thereto,

said tension receiver is adapted for receiving belt tension,

said tension receiver is connected with said flexible member for applying thereto force derived from said belt tension,

said flexible member is responsive to said force received from said tension receiver by flexing, and

said sensing means is responsive to said flexing of said flexible member by generating said electric signal.

13. The invention as defined by Claim 12, including

means for selecting the component of said force from a belt received by said tension receiver in the direction of an axis from other components of said force from a belt received by said tension receiver, and wherein:

said tension receiver is movable with respect to said anchor in the direction of said axis, and

said force applied to said flexible member by said tension receiver comprises said axial component.

14. The invention as defined by Claim 13 and including:

low friction bearing means for bearing said movement of said tension receiver relative to said anchor in the direction of said axis, and wherein:

said means for selecting comprises said bearing means.

15. The invention as defined by Claim 14 wherein:

said low friction bearing means comprises a first flexible suspension means engaging both said anchor and said tension receiver.

16. The invention as defined by Claim 12 and including:

an arm, and wherein:

said flexible member is linked with said arm for moving said arm consequent to said flexing, and

said sensing means is responsive to the position of said arm.

17. The invention as defined by Claim 16 and including:

a capacitor element, and wherein

said sensing means responds to capacitance between said capacitor element and said arm by generating said electric signal.

18. A force sensor comprising:

a tension receiver, and

a moving arm force responder, and wherein:

said moving arm force responder comprises a base adapted to receive force from said tension receiver,

said moving arm force responder also comprises two arms, there is a distance between said arms, and said distance depends on said force received from said tension receiver, and including

means responsive to said distance by generating an electric signal indicating said force received from said tension receiver.

19. The invention as defined by Claim 18 and including:

a capacitance sensor and two capacitor elements, and wherein:

there is a first capacitance between one of said two capacitor elements and one of said two arms, said arms are electrically connected,

there is a second capacitance between the other of said two capacitor elements and the other of said two arms,

said capacitance sensor is connected to said capacitor elements for sensing the capacitance therebetween,

said capacitance sensor is adapted to generate a signal responsive to said capacitance between said capacitor elements, and

said signal is said electric signal.

20. The invention as defined by Claim 18 and including:

a permanent magnet and a magnetic field sensor, and wherein:

said permanent magnet provides a magnetic field between said arms,

said magnetic field depends on said distance,

said magnetic field sensor is adapted to generate a signal responsive to said magnetic field between said arms, and

said signal is said electric signal.

21. The invention as defined by Claim 18 and including:

an anchor comprising a cross member, and wherein:

said cross member comprises a grooved edge,

said grooved edge comprises salient edges, and

said base engages said salient edges.

22. The invention as defined by Claim 21 wherein:

said base is adapted to flex in response to said force received from said tension receiver, and

said base and said groove are adapted to minimize friction between said base and said salient edges during said flexing.

23. The invention as defined by Claim 21 wherein;

when said force received from said tension receiver is small, a gap delimited by said salient edges exists between said base and said groove, and

there is a predetermined level of said force received from said tension receiver above which said base and said groove abut at points between said salient edges.

24. The invention as defined by Claim 18, and including:

an anchor, and

a first bearing means, and wherein:

said tension receiver is movable in the direction of an axis,

said first bearing means bears said tension receiver in said movement, and

said first bearing means comprises first flexible suspension means engaging said anchor and said tension receiver.

25. The invention as defined by Claim 24 wherein:

said first flexible suspension means is adapted to apply a preload force urging said tension receiver in the direction of said axis.

26. The invention as defined by Claim 24, and including:

a second bearing means, and wherein:

said second bearing means bears said tension receiver in said movement, and

said second bearing means comprises said base of said moving arm force responder engaging both said grooved edge of said anchor and said tension receiver.